Guidelines for the Use of Antiretroviral Agents in Adults and Adolescents with HIV

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Cost Considerations and Antiretroviral Therapy (Last updated December 18, 2019; last reviewed December 18, 2019)

The clinical benefits, public health impact, and cost-effectiveness of HIV treatment are well established since the advent of combination antiretroviral therapy (ART); as a result, expanded use of ART is one of the four pillars of the "Ending the HIV Epidemic: A Plan for America" initiative.[1-6] HIV treatment with ART is costly. A 2015 study using 2012 health care expenditure data estimated that the discounted lifetime medical costs for an individual who acquires HIV at age 35 years is $326,500 ($597,300, undiscounted), with 60% of the costs attributable to ART.[7] The estimated total direct expenditures for HIV/AIDS care and treatment between 2002 and 2011 was $10.7 billion, which is 800% to 900% higher than similar expenditures for other chronic conditions.[8] Total annual undiscounted spending on antiretroviral (ARV) drugs has more than doubled since 2010, reaching $22.5 billion in 2018.[9,10] Consequently, ART was among the top five therapeutic classes in non-discounted spending on medicine in 2018, after medications for diabetes and autoimmune diseases, cancer drugs, and respiratory agents.[10]

These guidelines first included an ARV cost table in 2012.[11] Since that time, the overall cost of brand-name, first-line ART regimens has increased more than 30%. The cost of ART, especially costs to the patient, should be one of the many considerations in regimen selection because such expenditures may directly impact adherence. Overall costs to the health care system, to insurers, and to society are also important, especially given the increasing number of people who require lifelong ART and rising drug costs.

Cost Sharing in the United States

Prescription drug pricing in the United States involves complex systems with varying requirements for mandatory and voluntary discounts, rebates, and reimbursement rates, and much of the pricing information is confidential. Prices can vary depending on the state, purchaser, the type of public or private insurance coverage in use, and the number of generic competitors to branded drugs (see Table 19b). Therefore, providers may find it difficult to navigate payer cost-containment practices, including formulary restrictions, prior authorization requirements, and patient cost-sharing arrangements, such as copayments (a fixed dollar amount per prescription), co-insurance (a fixed percentage of the prescription cost), and insurance deductible payments.

Out-of-pocket costs for patients can be prohibitive, creating a barrier to the initiation and continuation of ART. Cost sharing results in higher rates of patients not initiating ART and prescription abandonment at the pharmacy, decreased adherence, more frequent drug discontinuation, and increased use of the medical system among patients with chronic diseases.[12-17] Conversely, reducing patient out-of-pocket costs (e.g., through manufacturer copayment-assistance programs or by prescribing generic drugs instead of more costly brand-name products) has been associated with improved adherence.[18] Given the clear association between out-of-pocket costs and the ability to pay for and adhere to medications, clinicians should minimize patients' out-of-pocket drug-related expenses whenever possible. However, many of the cost-sharing arrangements that determine out-of-pocket costs are not transparent to clinicians or patients at the time decisions on ART are made.

Maximum allowable copayments on prescription drugs covered by Medicaid can vary by family income but are usually nominal. For commercial insurers, cost sharing is generally subject to maximum payment rules under the Affordable Care Act. Manufacturer cost-sharing assistance programs are available for most brand-name ARV products but may be restricted by pharmacy and by state. Manufacturer copay assistance may also be subject to copay accumulator programs implemented by insurers' pharmacy benefit managers, whereby manufacturer payments do not count toward a patient's deductible or out-of-pocket maximum.

Medicare Part D plan cost sharing can include deductibles and copayments or coinsurance, including out-of-pocket payments of up to 25% on prescription drugs during the annual coverage gap phase ("donut hole") and up to 5% during the annual catastrophic coverage phase.[19] Low-income beneficiaries may qualify for subsidies to defray cost-sharing payments. Manufacturer copay assistance programs may not be applied toward Medicare plan cost sharing, but assistance from independent foundations (e.g., Patient Access

Network Foundation, Patient Advocate Foundation) may provide cost-sharing support if financial eligibility criteria are met.

AIDS Drug Assistance Programs (ADAPs), through the Ryan White HIV/AIDS Program, make ARVs and other prescription drugs accessible to people with HIV who are underinsured and have limited financial resources. Further, many ADAPs provide premium and cost-sharing assistance to eligible clients covered by Medicaid, commercial insurance plans, or Medicare Part D plans.

Generic Antiretrovirals and Multi-Tablet Regimens

In 2017, savings to the U.S. health care system generated by the use of generic drugs and biosimilar products totaled $265 billion, including $40.6 billion and $82.7 billion in savings to Medicaid and Medicare, respectively.[20]

With substantial improvements in the long-term safety and effectiveness of contemporary ART, a number of regimens and regimen components in Table 6a remain listed beyond their patent protection date and are or will be available as lower-cost generic options. In one study, the savings associated with a transition to a hypothetical lower-cost generic ART could potentially help cover the 20-year, $480 billion projected costs to reach national treatment targets.[5]

Some research informs the cost impact of use of specific generic ARV regimens or regimen components. In a cost-effectiveness analysis conducted before the availability of integrase strand transfer inhibitors (INSTIs), the use of generic efavirenz (EFV) had an estimated saving of nearly $1 billion, and a regimen with generic EFV was very cost-effective.[2] A more recent study describes a 25% reduction in both the wholesale acquisition cost and federal supply schedule cost associated with switching from branded coformulated dolutegravir/abacavir/lamivudine (DTG/ABC/3TC) to branded DTG plus generic ABC and generic 3TC.[2,21]

A number of generic options of ARV regimen components included in Table 6a are commercially available. Generic tenofovir disoproxil fumarate (TDF), generic 3TC, or a lower-cost brand-name coformulation of TDF and 3TC may be combined with DTG or raltegravir. Generic versions of ABC, 3TC, and ABC/3TC are also available for use with DTG. Generic versions of EFV, atazanavir, and ritonavir are available for use, along with lower-cost brand-name coformulations of EFV (either 600 mg or 400 mg) with TDF and 3TC. TDF and 3TC have also been coformulated with doravirine, with a list price that is moderately lower than other single-tablet regimens containing only proprietary ARVs (Table 19b).

There is keen interest in assessing the economic value of using newer, more expensive drugs that have only incremental clinical benefits when compared with older, less expensive drugs. One study investigated the cost-effectiveness of TDF- versus TAF-based regimens.[22] The study demonstrated that the similar efficacy—but slightly improved toxicity profile—of the TAF-based regimens would justify a $1,000 higher annual premium for the TAF-based regimens. The study further highlighted that once generic TDF becomes available at much lower costs, TAF-based regimens will only remain cost-effective if their annual cost is no more than $1,000 above that of generically available TDF-based regimen. (Generic TDF was approved in 2018.)

The use of DTG plus generic 3TC for initial therapy has been evaluated in a cost-containment analysis. One study projected that if just 50% of patients with newly diagnosed HIV initiated a two-pill regimen consisting of branded DTG plus generic 3TC, the cost savings would reach $550 to $800 million over a 5-year period.[23] If 25% of patients with sustained viral suppression switched to branded DTG plus generic 3TC maintenance therapy, cost savings were projected to exceed $3 billion in just 5 years.[23]

Because all commercially available single-tablet regimens (STRs) (including those containing ARV components that are no longer patent protected) are branded products, use of generics in the United States may necessitate modest increases in pill burden, but without changes in drug frequency. One study of Medicare Part D spending, which included expenditures for one ARV fixed-dose combination tablet (ABC/3TC), demonstrated that splitting up brand-name coformulated products into their generic components could have saved Medicare an

estimated $2.7 billion from 2011 through 2016, and highlighted this approach as a critical cost-containment measure.[24] However, to the extent that pill burden, rather than drug frequency, results in reduced adherence, generic ART could lead to decreased costs but at the potential expense of worsening virologic suppression rates and poorer clinical outcomes.[14,15] Additionally, a benefit of STRs is that there is no risk that one drug in the regimen will be temporarily or permanently discontinued due to prescribing error, unsynchronized refill schedules, or prohibitive out-of-pocket costs. Data to support or refute the superiority of once-daily STRs versus once-daily multi-tablet regimens, particularly based on virologic outcomes and especially following viral suppression, remain limited. One large observational cohort study demonstrated a small but statistically significant virologic efficacy benefit associated with STRs.[25] In this study, the time to treatment discontinuation was shorter for non-STRs than for STR once-daily regimens; however, this difference disappeared when modifications for regimen simplification were included in the analysis.

Importantly, when the costs of brand-name drug products and generic ARV drugs are compared, savings associated with generic ARV drugs may vary when branded drugs are subject to discounts or rebates across public and private payer systems. Although generic drug products may be associated with societal cost savings and, specifically, savings for public payers, commercial insurers, and people with HIV with significant out-of-pocket pharmacy expenses, manufacturer copay assistance is generally not available to commercially insured individuals. In cases where manufacturer copay assistance may be available for a brand-name ARV product but not for an equivalent generic ARV product, the generic drug prescription paradoxically may result in higher out-of-pocket costs.

Laboratory Services

In the context of lifelong ART, the amount of money to be saved by performing infrequent or one-time only tests (e.g. genotypes or serologies), even expensive tests, is modest. Even so, judicious use of laboratory testing, without compromising patient care, can still be an important way to reduce costs. For patients with deductibles for laboratory tests, decreasing the use of tests with limited clinical value could reduce patient costs and improve adherence to a care plan. Several studies have examined the value of laboratory services in HIV care. One cost analysis study suggested that there may be no clinical benefit to continuing CD4 monitoring in patients with suppressed viral loads and CD4 counts >200 cells/mm^3 after 48 weeks of therapy.[16] In the United States, reducing biannual CD4 monitoring to annual monitoring could save approximately $10 million per year.[26] Another study examined more than 250 patients with HIV who were hospitalized over 500 times in a 6-month period. The inpatient chart review demonstrated that 45% of ordered laboratory tests were not indicated—including hepatitis serologies, other serologies, and cytomegalovirus polymerase chain reaction. During this 6-month period at this single site, the estimated cost of excess and inappropriate laboratory testing totaled $14,000 to $92,000.[27]

Cost-effectiveness analyses from 2001 and 2005 demonstrated the value of genotype resistance testing in ART-experienced and ART-naive patients and supported the guidelines' recommendation for performing resistance testing before ART initiation and at time of virologic failure.[28,29] More recent cost-effectiveness analyses have revisited the value of baseline, pre-treatment genotype testing in the setting of INSTI plus two-nucleoside reverse transcriptase inhibitors (NRTIs) regimens. One modeling study suggested that INSTI-specific genotype testing before initiation of a DTG plus two NRTIs regimen was not cost-effective and may lead to underutilization of INSTIs; the results highlighted that some patients with INSTI-resistance would still become virologically suppressed on a DTG-based regimen.[30] A second modeling study found that standard (NRTI, non-nucleoside reverse transcriptase inhibitor, protease inhibitor) genotype testing before ART initiation was also not cost-effective because it may have little impact on outcomes given the use of an INSTI plus 2 NRTIs in first-line treatment.[31] Both of these modeling studies only assessed the use of genotype testing for decision making for initial ART, and presumed such testing would be available for use at the time of first-line failure. The results of these modeling studies suggest that additional clinical research is needed to define the role of genotypic resistance testing before initiation of an INSTI plus 2-NRTI regimen.

Importantly, these modelling data do not apply to two-drug ARV regimens, which are increasingly being prescribed in clinical practice. It should be noted that the Panel continues to recommend baseline testing for clinically relevant protease and reverse transcriptase mutations (see Drug-Resistance Testing section).

Conclusion

Ideally, costs should not drive clinical care, yet they are a factor in contemporary health care. Because regimen costs may impact patients' ability to afford and adhere to therapy, understanding ART-related costs in the United States is increasingly important. Providers play a key role in ensuring optimal care while working to both: 1) minimize costs for ARV drugs and avoid or minimize unnecessary laboratory monitoring and 2) retain excellent clinical outcomes in an environment of cost-containment strategies, including formulary restrictions, utilization management (e.g., prior authorization), and cost sharing. Providers should therefore remain informed of current insurance and payment structures, ART costs (see Table 19b below for estimates of drugs' average prices), out-of-pocket expenditure requirements, and available generic ARV options. Providers should work with patients and their pharmacists, social workers, case managers, and/or peer navigators to understand their patients' medication benefits and any potential financial barriers to prescription fulfillment. This information will help providers identify treatment options that are safe, effective, and affordable. Engaging with patients about any cost constraints during the process of regimen selection will likely facilitate adherence. Additionally, providers should familiarize themselves with ARV affordability resources (such as ADAP and pharmaceutical company assistance programs for patients who qualify) and refer patients to such assistance if needed.

Table 19a. Insurance and Health Program Prescription Drug Pricing and Access (page 1 of 2)

Insurance/Health Program	Prescription Drug Pricing and Access
Medicaid	Drug manufacturers must participate in MDRP for their drugs to be covered by Medicaid and under Medicare Part B. Manufacturers are required to pay Medicaid programs a rebate of at least 23.1% of the average price paid to manufacturers by wholesalers (AMP) for most brand-name drugs sold to retail pharmacies (13% for generics). Manufacturers pay additional rebates if this confidential AMP increases faster than the CPI-U rate of inflation. States are permitted to require "nominal" cost-sharing for medical and pharmacy benefits for some beneficiaries though many elect not to do so. States can obtain a waiver to allow them to apply higher cost-sharing.
Medicare	ARVs are one of six "protected drug classes" under Medicare Part D. Part D plans must provide access to all, or substantially all, FDA-approved ARVs. Part D plan sponsors, or PBMs on their behalf, negotiate rebates on outpatient drugs with manufacturers; the extent of rebating is unclear. Most physician-administered drugs and biologics are covered under Medicare Part B at a set cost: ASP plus 6%. This pricing mechanism controls spending by narrowing the spread between what is actually paid for the drug and what is actually billed to Medicare. Premiums and cost-sharing payments may be significant for both services and prescription drugs; there is no cap on out-of-pocket spending under Part A (hospital care) and Part B. Some subsidies and supplemental coverage are offered for low-income beneficiaries. Manufacturer copay assistance programs cannot be applied to Part B or Part D cost sharing; cost sharing support is available from ADAPs, foundations, and other sources, based on financial eligibility criteria.
Commercial Insurance	Private insurance plans, or PBMs on their behalf, negotiate rebates on inpatient and outpatient drugs with manufacturers; the extent of rebating is unclear. Formulary restrictions and utilization management (prior authorization, step therapy, higher cost sharing) are possible as cost-containment measures. Cost sharing can be highly variable. Manufacturer copay assistance programs can be applied in most cases but may not count toward annual Affordable Care Act cost sharing limits; cost sharing support is also available from ADAPs, foundations, and other sources based on financial eligibility criteria.

Table 19a. Insurance and Health Program Prescription Drug Pricing and Access (page 2 of 2)

Insurance/Health Program	Prescription Drug Pricing and Access
ADAPs	Significant discounting on most ARVs negotiated by the ADAP Crisis Task Force is allowed under the 340B Drug Pricing Program. There is usually no cost sharing for ADAP clients who are uninsured. ADAP can assist with commercial or public insurance out-of-pocket costs.
Veterans Affairs	The FCP is the maximum price manufacturers may charge the four largest federal purchasers of pharmaceuticals (the "Big Four"): The Department of Veterans Affairs, the Department of Defense, the Public Health Service (including the Indian Health Service), and the Coast Guard. The FCP of a drug includes a 24% discount on a drug's average price paid by non-federal purchasers. Additional discounts may be applied if non-federal purchase prices increase faster than the CPI-U inflation rate. Big Four prices may be 40% to 50% below list prices. VA may negotiate further price reductions. Prescription drug cost sharing is generally nominal; medications are not withheld from those who cannot afford cost sharing expenses.
Community Health Centers	Many community health centers are enrolled in the 340B Drug Pricing Program, which allows for discounted drug purchasing using the MDRP formula. Discounts start at 23.1% off AMP, with additional discounts if the AMP increases faster than the CPI-U rate of inflation. Cost-sharing in community health centers is first driven by payer source. For clients who are uninsured, cost-sharing, if required, is typically based on a sliding fee scale.

Key: ADAP = AIDS Drug Assistance Programs; AMP = average manufacturer price; ARV = antiretroviral; ASP = average sales price; CPI-U = consumer price index-urban; FCP = Federal Ceiling Price; FDA = Food and Drug Administration; MDRP = Medicaid Drug Rebate Program; PBM = pharmacy benefits manager; VA = Veterans Affairs

Table 19b. Monthly Average Prices of Commonly Used Antiretroviral Drugs (Last updated December 18, 2019; last reviewed December 18, 2019) (page 1 of 5)

Table 19b includes three benchmark prices, rounded to the nearest dollar, for commonly used ARV drugs[a] as a general reference for health care providers when considering the cost of HIV treatment. Health care providers should contact patients' pharmacies or payers regarding actual prices, comparative cost savings, formulary restrictions, and patient cost-sharing requirements.

Wholesale acquisition cost (WAC) is the list price published by manufacturers for prescription drugs or biologics sold to wholesalers. The WAC price approximates what retail pharmacies pay wholesalers for single-source (e.g., brand-name) drugs. There is a range of WAC prices for generic ARV drugs, as these are multiple-source products with variable list prices. With increasing competition, actual transactional prices of generic drugs among wholesalers and pharmacies decrease substantially. **Average wholesale price (AWP)** has historically been used as the basis for setting public (e.g., Medicaid) and private (e.g., commercial insurer) reimbursement rates for pharmacies. Neither WAC nor AWP include variable price concessions along supply and payment chains, including discounts and rebates to wholesalers, pharmacies, federal purchasers (e.g., the Veterans' Administration), pharmacy benefit managers (PBMs), commercial insurers, Medicaid, 340B pharmacies, and AIDS Drug Assistance Programs. The availability of these discounts and rebates depends on product demand, market competition, and WAC price increases set by manufacturers. Maximum prices are assigned to generic products with three or more therapeutically and pharmaceutically equivalent products, as determined by the Food and Drug Administration. This federally established price is the **federal upper limit (FUL)**. Federal Medicaid will reimburse state Medicaid programs up to this limit for multiple-source drugs (plus the dispensing fee); commercial insurers set their own reimbursement upper limits with pharmacies. Whereas WACs and AWPs are generally set annually, FULs are adjusted on a monthly basis, particularly for multiple-source drugs with fluctuating pharmacy acquisition costs. In the table below, the FUL for a drug is described as "pending" if a generic drug currently lacks the competition required to trigger a FUL.

ARV Drug (Generic and Brand Names)	Strength, Formulation	Tablets, Capsules, or mLs per Month	WAC (Monthly)[b]	AWP (Monthly)[b]	FUL (As of Oct. 31, 2019)[c]
NRTIs					
Abacavir					
• Generic	300 mg tablet	60 tablets	$150 to $482	$502 to $603	$43
• Ziagen	300 mg tablet	60 tablets	$559	$670	
Emtricitabine					
• Emtriva	200 mg capsule	30 capsules	$537	$644	N/A
Lamivudine					
• Generic	300 mg tablet	30 tablets	$75 to $343	$324 to $430	$51
• Epivir	300 mg tablet	30 tablets	$416	$499	
Tenofovir Disoproxil Fumarate					
• Generic	300 mg tablet	30 tablets	$27 to $163	$110 to $1,216	$203
• Viread	300 mg tablet	30 tablets	$1,196	$1,435	

Table 19. Monthly Average Prices of Commonly Used Antiretroviral Drugs (Last updated December 18, 2019; last reviewed December 18, 2019) (page 2 of 5)

ARV Drug (Generic and Brand Names)	Strength, Formulation	Tablets, Capsules, or mLs per Month	WAC (Monthly)[b]	AWP (Monthly)[b]	FUL (As of Oct. 31, 2019)[c]
NRTIs, continued					
Zidovudine					
• Generic	300 mg tablet	60 tablets	$36 to $54	$54 to $365	$13
NRTI Combination Products					
Abacavir/Lamivudine					
• Generic	600 mg/300 mg tablet	30 tablets	$185 to $1,116	$1,393 to $1,550	$182
• Epzicom	600 mg/300 mg tablet	30 tablets	$1,292	$1,550	
Tenofovir Alafenamide/Emtricitabine					
• Descovy	25 mg/200 mg tablet	30 tablets	$1,758	$2,109	N/A
Tenofovir Disoproxil Fumarate/Emtricitabine					
• Truvada	300 mg/200 mg tablet	30 tablets	$1,676	$2,011	N/A
Tenofovir Disoproxil Fumarate/Lamivudine					
• Cimduo	300 mg/300 mg tablet	30 tablets	$1,005	$1,207	N/A
• Temixys	300 mg/300 mg tablet	30 tablets	$850	$1,020	N/A
Zidovudine/Lamivudine					
• Generic	300 mg/150 mg tablet	60 tablets	$134 to $578	$878 to $932	$123
• Combivir	300 mg/150 mg tablet	60 tablets	$901	$1,082	
Abacavir Sulfate/Zidovudine/Lamivudine					
• Generic	300 mg/300 mg/150 mg tablet	60 tablets	$1,391	$1,738	Pending
• Trizivir	300 mg/300 mg/150 mg tablet	60 tablets	$1,610	$1,932	
NNRTIs					
Efavirenz					
• Generic	600 mg tablet	30 tablets	$894 to $980	$1,073 to $1,117	$768
• Sustiva	600 mg tablet	30 tablets	$981	$1,177	
Doravirine					
• Pifeltro	100 mg tablet	30 tablets	$1,380	$1,656	N/A
Etravirine					
• Intelence	200 mg tablet	60 tablets	$1,366	$1,628	N/A

Table 19. Monthly Average Prices of Commonly Used Antiretroviral Drugs (Last updated December 18, 2019; last reviewed December 18, 2019) (page 3 of 5)

ARV Drug (Generic and Brand Names)	Strength, Formulation	Tablets, Capsules, or mLs per Month	WAC (Monthly)[b]	AWP (Monthly)[b]	FUL (As of Oct. 31, 2019)[c]
NNRTIs, continued					
Nevirapine					
• Generic	200 mg tablet	60 tablets	$10 to $45	$648 to $651	$65
• Viramune	200 mg tablet	60 tablets	$906	$1,087	
• Generic XR	400 mg tablet	30 tablets	$135 to $565	$595 to $706	$392
• Viramune XR	400 mg tablet	30 tablets	$840	$1,008	
Rilpivirine					
• Edurant	25 mg tablet	30 tablets	$1,115	$1,338	N/A
PIs					
Atazanavir					
• Generic	200 mg capsule	60 capsules	$445 to $1,264	$1,517 to $1,668	$1,405
• Reyataz	200 mg capsule	60 capsules	$1,463	$1,756	
• Generic	300 mg capsule	30 capsules	$445 to $1,252	$1,502 to $1,652	$1,032
• Reyataz	300 mg capsule	30 capsules	$1,449	$1,739	
Atazanavir/Cobicistat					
• Evotaz	300/150 mg tablet	30 tablets	$1,605	$1,927	N/A
Darunavir					
• Prezista	600 mg tablet	60 tablets	$1,690	$2,028	N/A
• Prezista	800 mg tablet	30 tablets	$1,690	$2,028	N/A
• Prezista	100 mg/mL suspension	200 mL	$939	$1,126	N/A
Darunavir/Cobicistat					
• Prezcobix	800 mg/150 mg tablet	30 tablets	$1,931	$2,317	N/A
Lopinavir/Ritonavir					
• Kaletra	200 mg/50 mg tablet	120 tablets	$1,024	$1,229	N/A
Tipranavir					
• Aptivus	250 mg capsule	120 capsules	$1,673	$2,008	N/A
INSTIs					
Dolutegravir					
• Tivicay	50 mg tablet	30 tablets	$1,740	$2,089	N/A

Table 19. Monthly Average Prices of Commonly Used Antiretroviral Drugs (Last updated December 18, 2019; last reviewed December 18, 2019) (page 4 of 5)

ARV Drug (Generic and Brand Names)	Strength, Formulation	Tablets, Capsules, or mLs per Month	WAC (Monthly)[b]	AWP (Monthly)[b]	FUL (As of Oct. 31, 2019)[c]
INSTIs, continued					
• Tivicay	50 mg tablet	60 tablets	$3,480	$4,178	N/A
Raltegravir					
• Isentress	400 mg tablet	60 tablets	$1,574	$1,889	N/A
• Isentress HD	600 mg tablet	60 tablets	$1,574	$1,889	N/A
Fusion Inhibitor					
Enfuvirtide					
• Fuzeon	90 mg injection kit	60 doses (1 kit)	$3,586	$4,303	N/A
CCR5 Antagonist					
Maraviroc					
• Selzentry	150 mg tablet	60 tablets	$1,556	$1,867	N/A
• Selzentry	300 mg tablet	60 tablets	$1,556	$1,867	N/A
• Selzentry	300 mg tablet	120 tablets	$3,112	$3,734	N/A
CD4-Directed Post-Attachment Inhibitor					
Ibalizumab-uiyk					
• Trogarzo	200 mg vial	8 vials	$9,080	$10,896	N/A
Coformulated Combination Products as Single-Tablet Regimens					
Bictegravir/Tenofovir Alafenamide/Emtricitabine					
• Biktarvy	50 mg/25 mg/200 mg tablet	30 tablets	$3,089	$3,707	N/A
Darunavir/Cobicistat/Tenofovir Alafenamide/Emtricitabine					
• Symtuza	800 mg/150 mg/10 mg/200 mg tablet	30 tablets	$3,722	$4,466	N/A
Dolutegravir/Abacavir/Lamivudine					
• Triumeq	50 mg/600 mg/300 mg tablet	30 tablets	$2,889	$3,467	N/A
Dolutegravir/Lamivudine					
• Dovato	50 mg/300 mg tablet	30 tablets	$2,295	$2,754	N/A
Dolutegravir/Rilpivirine					
• Juluca	50 mg/25 mg tablet	30 tablets	$2,707	$3,249	N/A
Doravirine/Tenofovir Disoproxil Fumarate/Lamivudine					
• Delstrigo	100 mg/300 mg/300 mg tablet	30 tablets	$2,100	$2,520	N/A

Table 19. Monthly Average Prices of Commonly Used Antiretroviral Drugs (Last updated December 18, 2019; last reviewed December 18, 2019) (page 5 of 5)

ARV Drug (Generic and Brand Names)	Strength, Formulation	Tablets, Capsules, or mLs per Month	WAC (Monthly)[b]	AWP (Monthly)[b]	FUL (As of Oct. 31, 2019)[c]
Coformulated Combination Products as Single-Tablet Regimens, continued					
Efavirenz/Tenofovir Disoproxil Fumarate/Emtricitabine					
• Atripla	600 mg/300 mg/200 mg tablet	30 tablets	$2,858	$3,429	N/A
Efavirenz/Tenofovir Disoproxil Fumarate/Lamivudine					
• Symfi	600 mg/300 mg/150 mg tablet	30 tablets	$1,634	$1,961	N/A
• Symfi Lo	400 mg/300 mg/150 mg tablet	30 tablets	$1,634	$1,961	N/A
Elvitegravir/Cobicistat/Tenofovir Alafenamide/Emtricitabine					
• Genvoya	150 mg/150 mg/10 mg/200 mg tablet	30 tablets	$3,090	$3,708	N/A
Elvitegravir/Cobicistat/Tenofovir Disoproxil Fumarate/Emtricitabine					
• Stribild	150 mg/150 mg/300 mg/200 mg tablet	30 tablets	$3,241	$3,889	N/A
Rilpivirine/Tenofovir Alafenamide/Emtricitabine					
• Odefsey	25 mg/25 mg/200 mg tablet	30 tablets	$2,812	$3,375	N/A
Rilpivirine/Tenofovir Disoproxil Fumarate/Emtricitabine					
• Complera	25 mg/300 mg/200 mg tablet	30 tablets	$2,812	$3,375	N/A
PK Enhancers (Boosters)					
Cobicistat					
• Tybost	150 mg tablet	30 tablets	$230	$277	N/A
Ritonavir					
• Generic	100 mg tablet	30 tablets	$80 to $222	$278	$78
• Norvir	100 mg tablet	30 tablets	$257	$309	

[a] The following less commonly used ARV drugs are not included in this table: DLV, ddI, FPV, IDV, NFV, SQV, and d4T.

[b] Source: Micromedex Red Book [database]. IBM Watson Health. 2019. Available at: https://www.micromedexsolutions.com

[c] Source: Federal Upper Limits–October 2019 [database]. Medicare & Medicaid Services. 2019. Available at: https://www.medicaid.gov/medicaid/prescription-drugs/pharmacy-pricing/index.html.

Key: ARV = antiretroviral; AWP = average wholesale price; CD4 = CD4 T lymphocyte; d4t = stavudine; ddI = didanosine; DLV = delavirdine; FPV = fosamprenavir; FUL = federal upper limit; HD = high dose; IDV = indinavir; INSTI = integrase strand transfer inhibitor; N/A = not applicable; NFV = nelfinavir; NNRTI = non-nucleoside reverse transcriptase inhibitor; NRTI = nucleoside reverse transcriptase inhibitor; PI = protease inhibitor; PK = pharmacokinetic; SQV = saquinavir; WAC = wholesale acquisition cost; XR = extended release

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